



**Ceiba Foundation for Tropical Conservation**  
**TROPICAL CONSERVATION SEMESTER 2024**

**TROPICAL ECOLOGY, ECOSYSTEMS, AND EVOLUTION**  
15 January - 8 March  
4 credits

### **Instructors & Coordinators**

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Program Coordinator

### **Canvas and Google Drive**

Please enroll in the Canvas course (invite via email), which will be used mostly for assignments and grades. **Note Ceiba does not use the same Canvas system as UW.** Create a username and password the first time you access the page, and then edit your profile. Be sure the time zone is set to Quito, Once you are enrolled, access all your TCS courses at: <https://canvas.instructure.com>. Please also ensure you have access to the shared TCS google drive (invite via email), where all other course files will be available; it's easiest if you access both platforms via the same email account.

### **Purpose of the Course**

The dual goals of this course are gaining a deep familiarity with tropical ecosystems while also mastering advanced concepts in general ecology. The course surveys major tropical ecosystems and explores the principal reasons why they differ from each other, and from temperate zone systems. We will cover fundamental ecological concepts applicable to all natural systems, and demonstrate them with tropical and temperate examples. Standard ecological techniques, including GPS/GIS, vegetation characterization, and biodiversity surveys, will be taught in the field. Visits to tropical ecosystem types found in Ecuador provide an opportunity to cement classroom learning with on-site teaching, field activities, and research projects. We will explore high elevation páramo (aka tropical alpine), montane forest, the rare tropical deciduous forest, and of course the Amazon rainforest. This course is taught in parallel with Conservation Biology, in which you will examine how the Ceiba Foundation, and others, have approached the protection of tropical terrestrial ecosystems and the flora and fauna that rely on them for habitat.

### **Learning Objectives**

- Understand overarching ecological principles including patterns of diversity, evolution, species interactions, biogeochemical cycles, and community organization
- Describe the geographical, abiotic, and biotic characteristics of the tropics, and compare these to the temperate zone
- Identify the most common tropical plant families
- Identify common tropical animal taxa, including widespread bird species and insect orders
- Describe the ecological characteristics of tropical terrestrial ecosystems and explain biotic adaptations to them
- Formulate a testable hypothesis, collect data, apply appropriate statistical analyses, and formulate valid scientific conclusions
- Present scientific research in written and oral formats
- Articulate the ecological impacts of human activities on species and ecosystems, with a focus on tropical ecosystems

### **Course Expectations & Assessments**

This program is highly interactive, and encourages you to lead your own learning by taking initiative beyond minimum requirements. **Participation** grades are based on student involvement in classroom and field activities, input in group discussions, inquisitiveness and engagement in learning, respect and helpfulness towards others, and overall contribution to the success of the course. **Homework assignments** include a variety of in-class projects, both in small groups and individually, as well as hands-on activities carried out in class and at our field sites. An early **quiz** will cover ecological concepts and tropical communities prior to departure to the Amazon, and give you early exposure to the program's style of testing. The **final exam** comprises field and written portions; the former tests your grasp of plant and animal identifications in the field, while the latter consists of short answer and essay questions to review lecture and reading materials. Each student will also keep a **field**

**journal**, which should include detailed site descriptions, notes on teaching delivered in the field, lists of species seen, sketches of plants or other organisms, and daily reflections of your experience.

Students will conduct a **field research project** in small groups at the Tiputini Biodiversity Station, in the Amazon rainforest. Projects will be designed to address a specific ecological question, drawn from a literature review, over the course of a few days, and will afford students an unparalleled opportunity to interact closely with the rainforest for extended periods. Research projects will be planned and carried out by small groups (2-5 students), in which everyone is expected to contribute equally (see comments on participation). The goal of the research project is to gain hands-on experience in carrying out research in real-world conditions, and to sharpen your skills in logical thinking, hypothesis development, and data analysis. Students will present their findings in a paper formatted for a scholarly journal, and in an oral presentation such as would be given at a scientific conference.

### Assessments:

Grade Item	Weight
Participation	15%
Assignments	15%
Quiz	5%
Field Final Exam	15%
Written Final Exam	15%
Group Research Project	
Oral Presentation (as a group)	10%
Final Paper (individual)	15%
Field Journal	10%

**Grading Scale\*:** A=100-92%, AB=91.9-88.0%, B=87.9-82.0, BC=81.9-78.0, C=77.9-70.0, D<70.0

*\*Please note the USFQ online grade system displays only whole-letter grades; your final grade will appear correctly on your transcript from UW-Madison.*

### Statement on Diversity & Inclusion

Diversity is a source of strength, creativity, and innovation at the Ceiba Foundation. We value the contributions of each person and respect the profound ways their identity, culture, background, experience, status, abilities, and opinion enrich the program and broader community with whom we interact. We commit ourselves to the pursuit of excellence in teaching, research, outreach, and diversity as inextricably linked goals, and we encourage all participants to value the contribution of one another, and to treat each other with respect.

### Academic Conduct

All students on the TCS program are expected to agree to a common Code of Conduct. As a visitor in Ecuador and a representative of your home country and the Ceiba Foundation, we expect you to act at all times in a safe, responsible, culturally sensitive, and respectful manner. As a UW-Madison affiliated and accredited program, Ceiba abides by the same rules governing academic conduct. All homework, quizzes, tests, and written assignments require your own thought and effort. Any student found to have submitted plagiarized material, or have otherwise obtained information falsely, will be subject to rules governing UW Academic Misconduct. Consequences of academic misconduct may range from failure on the assignment, failure in the course, or (in extreme cases) expulsion from the Tropical Conservation Semester program without refund. But most of all, we encourage all students to have fun, learn a lot, be curious, and enjoy the richness of the world around you!

### Readings and Additional Course Materials

There will be readings and activities assigned throughout the course. Articles, handouts and other course materials (links, videos, bird calls, etc.) will be posted to the TCS shared google drive. The following text will be available for reference:

Kricher, John. 2017. *The New Neotropical Companion*. Princeton University Press.

Course materials are copyrighted, or owned by Ceiba, and are for your use for educational purposes during this program only. Never share your login or password with people outside the program.